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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/531,225	04/13/2005	Helmut Winterling	12810-00072-US	4572
30678 7590 11/26/2007 CONNOLLY BOVE LODGE & HUTZ LLP 1875 EYE STREET, N.W. SUITE 1100 WASHINGTON, DC 20036			EXAMINER LISTVOYB, GREGORY	
			ART UNIT 1796	PAPER NUMBER
			MAIL DATE 11/26/2007	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Office Action Summary**

Application No.

10/531,225

Applicant(s)

WINTERLING ET AL.

Examiner

Gregory Listvoyb

Art Unit

1796

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on 25 September 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

Claim 1, 2, 5-11, 13-14 and 16-17 rejected under 35 U.S.C. 103(a) as being unpatentable over Brubaker (US patent 2264298) in combination with Sato et al (US Patent 4963639) ( All the above references were cited in the previous Office Action mailed on 1/31/2007).

Brubaker teaches a fiber forming hydroxyl terminated polyamide (and process of making), comprising a caprolactam (see Example 3), which includes at least one hydroxy group and has chemical bonding by way of an amide group to the end of the polymer chain, where the compound which includes at least one hydroxy group is a linear, unbranched alkanemonocarboxylic acid which includes at least one terminal hydroxy group and wherein the compound which includes at least one hydroxy group is present in the range from 0.001 to 2 mol%, based on 1 mole of amide groups of the polyamide (see Example 3).

Regarding claims 7 and 9 The fiber above produced by extrusion molding process (Page 1, line 20). Brubaker discloses that terminal hydroxyls increase fiber affinity to a pigment.

Note that Applicant's and Brubaker's polyamides have very close structures. The only difference is that the Brubaker's polymer has a terminal group of CONH-R-OH, whereas Applicant's one has a structure of NHCO-R-OH. Considering that both polyamides have high molecular weight, the above difference in a structure is miniscule.

Therefore, the above polyamides have analogous structures. In accordance to MPEP 2144.09 the structural analogs are *prima facie* obvious in the absence of showing unexpected results.

Brubaker does not teach that his polyamide has a terminal group, which based on Alkanecarboxylic acid

In addition, Sato discloses polyamide polyols, which can be synthesized by reacting a polyamide with a hydroxyl-containing carboxylic acid (Column 5, line 13).

In Examiner's position, Hydroxycarboxylic acid is more environmentally friendly, compare to Hydroxylamine. Typically, Nitrogen-containing wastewaters require a special treatment.

Therefore, it would be obvious to a person of ordinary skills in the art at the time the invention was made to replace Hydroxylamine to Hydroxycarboxylic acid in Brubaker's process in order to make more environmentally friendly process.

Regarding claim 8, Sato discloses a film, based on the polyamide of the above structure (Abstract). In examiner's position, since polyimide with hydroxyl –terminated polyimide has a good affinity to dyes and polyimide itself is a transparent material, it can be used in colored films (i.e. light filters).

Therefore, it would be obvious to a person of ordinary skills in the art at the time the invention was made to make film from Brubaker's polymer, modified by Sato, especially in color filters, since the above polyimide has great affinity to dyes and transparency.

Claims 1-3, 5-7, 9-18 rejected under 35 U.S.C. 103(a) as being unpatentable over Brubaker in combination with Glazko et al (Deamination... Russian Journal of Applied Chemistry. Vol 74, N9, 2001, p.1513-1516) herein Glazko.

Brubaker teaches a hydroxyl terminated polyamide, comprising a caprolactam (see Example 3), which contains 0.002 % mol of hydroxyl group based on 1 mol amide group (see Example 3).

Brubaker does not teach that his polyamide has terminal groups based on Hydroxycaproic acid.

Glazko discloses (see page 1515) that Hydroxycaproic acid can be easily obtained from Caprolactam, which is a starting material for Brubaker's synthesis. In Examiner's position, it makes the process more economical, since it eliminates the need to purchase Hydroxycaproic acid.

Therefore, it would have been obvious to a person of ordinary skills in the art at the time the invention was made to use Hydroxycaproic acid in Brubaker's process to obtain economically sound process.

### ***Response to Arguments***

Applicant argues that "The Office has provided no explanation as to why there is a reasonable expectation of success in modifying the chemical structure in Brubaker by reacting the polyamide with a carboxylate compound." This is incorrect.

As discussed above, Application's and Brubaker's polyamides have very close structures. The only difference is that the Brubaker's polymer has a terminal group of CONH-R-OH, whereas Applicant's one has a structure of NHCO-R-OH. Considering that both polyamides have high molecular weight, the above difference in a structure is miniscule.

Therefore, the above polyamides have analogous structures. In accordance to MPEP 2144.09 the structural analogs are *prima facie* obvious in the absence of showing unexpected results.

Applicant argues that statement "hydroxycarboxylic acid is more environmentally friendly compared to hydroxylamine" does not have any support.

In the previous Office Action it was stated that Typically, Nitrogen-containing wastewaters require a special treatment, since they represent environmental hazard. In order to support this statement "The water management policies guidelines for province of Ontario" , Ministry of environment and energy, 1994 is enclosed. Ethanolamine used by Brubaker listed in this document (see page 9).

Regarding Glazko's reference, Hydroxycaproic acid can be easily obtained from Caprolactam, which is a starting material for Brubaker's synthesis. In Examiner's position, it makes the process more economical, since it eliminates the need to purchase Hydroxycaproic acid.

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregory Listvoyb whose telephone number is (571) 272-6105. The examiner can normally be reached on 10am-7pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on (571) 272-1119. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.




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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gregory Listvoyb  
Examiner  
Art Unit 1796

GL  
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RABON SERGENT  
PRIMARY EXAMINER